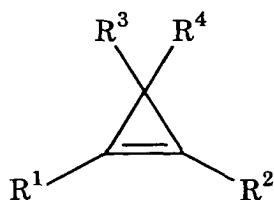


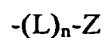
We claim:

1. A compound of the formula:



wherein:

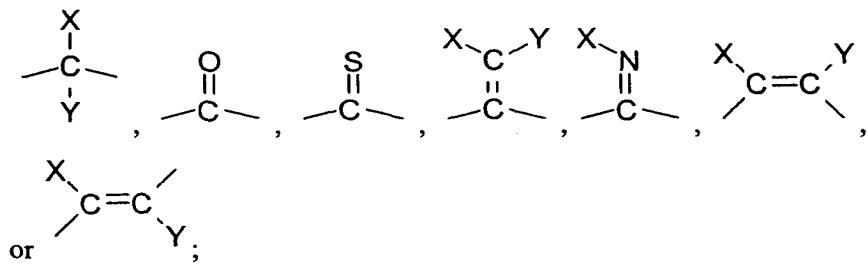
- 5 a) one of R¹ and R³ is H and R², R⁴, and the other of R¹ and R³ are independently selected from H and a group of the formula:



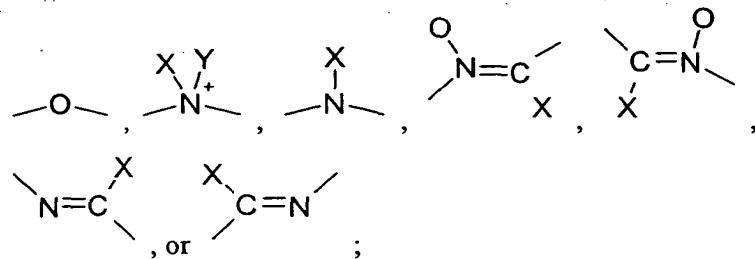
wherein:

- 10 i) n is an integer from 1 to 12;
 ii) each L is independently selected from a member of the group D1, D2, E,
 or J wherein:

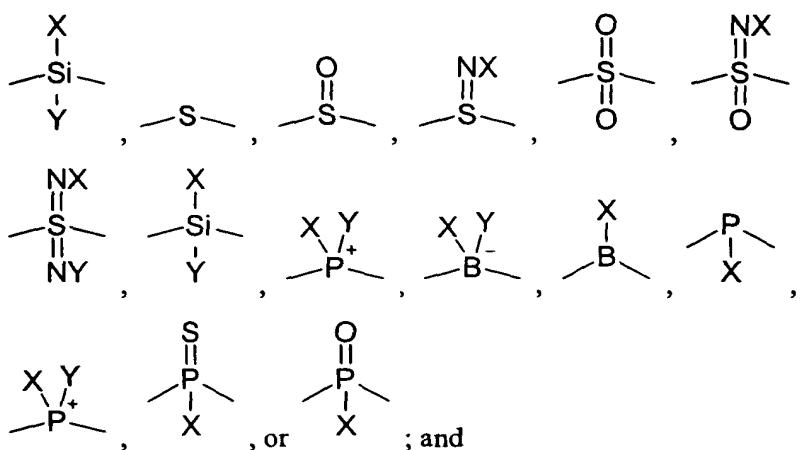
D1 is of the formula:



15 D2 is of the formula:

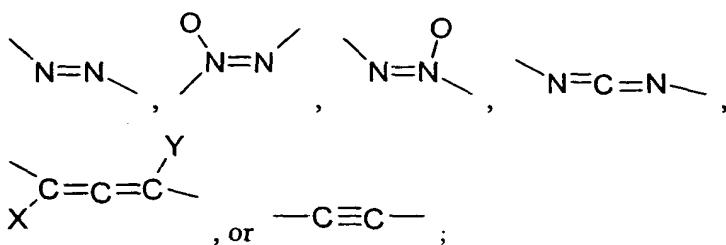


E is of the formula:



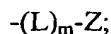
J is of the formula:

5



wherein:

A) each X and Y is independently a group of the formula:



10

and

B) m is an integer from 0 to 8; and

C) no more than two D2 or E groups are adjacent to each other and no J groups are adjacent to each other;

iii) each Z is independently selected from:

15

A) hydrogen, halo, cyano, nitro, nitroso, azido, chlorate, bromate, iodate, isocyanato, isocyanido, isothiocyanato, pentafluorothio, or

B) a group G, wherein G is an unsubstituted or substituted; unsaturated, partially saturated, or saturated; monocyclic, bicyclic, tricyclic, or fused; 4 to 14 membered carbocyclic or heterocyclic ring system

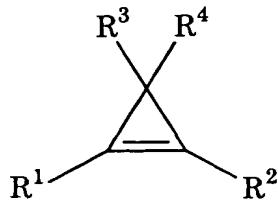
20

wherein;

1) when the ring system contains a 4 membered heterocyclic ring, the heterocyclic ring contains 1 heteroatom;

- 2) when the ring system contains a 5, or more, membered heterocyclic ring or a polycyclic heterocyclic ring, the heterocyclic or polycyclic heterocyclic ring contains from 1 to 4 heteroatoms;
- 3) each heteroatom is independently selected from N, O, and S;
- 5 4) the number of substituents is from 0 to 5 and each substituent is independently selected from X;
- b) the total number of non-hydrogen atoms in each compound is 50 or less; and
- c) the total number of heteroatoms in -(L)_n-Z is from 0 to 4; and
- d) either;
- 10 i) R¹ or R³ contains at least one group G; or
- ii) at least one L group is an E group; or
- iii) at least one of R¹, R², R³, and R⁴ contains one to four non-hydrogen atoms and at least one of R¹, R², R³, and R⁴ contains more than four non-hydrogen atoms; and its enantiomers, stereoisomers, salts, and mixtures thereof;
- 15 or a composition thereof;
- provided that:
- a) -(L)_n-Z is other than trimethylsilyl, trimethylsilylsulfonyl or thiol; and
- b) R¹ is other than phenylsulfonyl, phenylthioethyl, diphenylhydroxymethyl,
- 20 benzo[g]quinolin-7-ol-1-methyl, a malonate derivative, a substituted 3-aminocyclohexenone, a dialkoxybenzylaminocarbonyl; and
- c) R³ is other than 2-phenyl-ethenyl, phenylthio, (4-bromo-2-methylphenyl)carbamic acid N-carbonyl, (4-bromo-2-methylphenyl)carbamic acid ethyl ester N-carbonyl, a malonate derivative, aryloxy, or a
- 25 dialkoxybenzylaminecarbonyl.

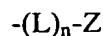
2. A method of inhibiting an ethylene response in a plant comprising the step of contacting the plant with an effective ethylene response-inhibiting amount of a cyclopropene derivative of the formula:



wherein:

- a) one of R¹ and R³ is H and R², R⁴, and the other of R¹ and R³ are independently selected from H and a group of the formula:

5

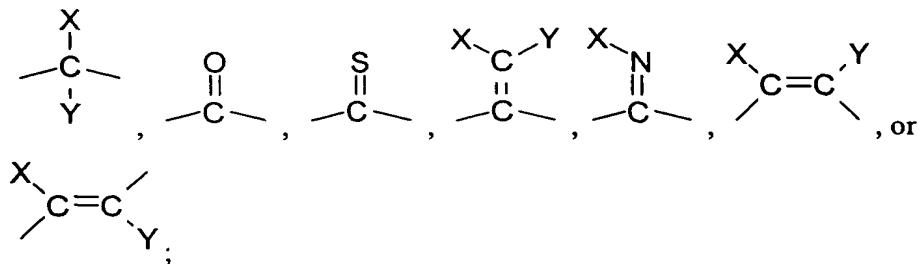


wherein:

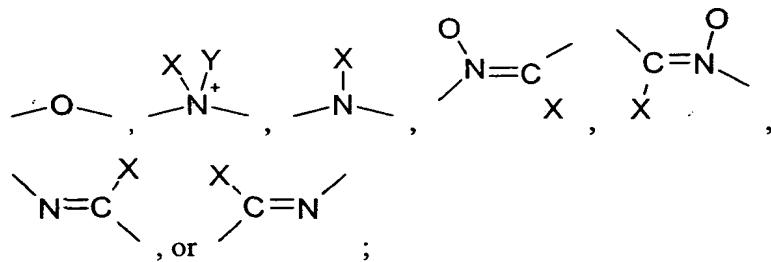
- i) n is an integer from 1 to 12;
- ii) each L is independently selected from a member of the group D1, D2, E, or J wherein:

10

D1 is of the formula:

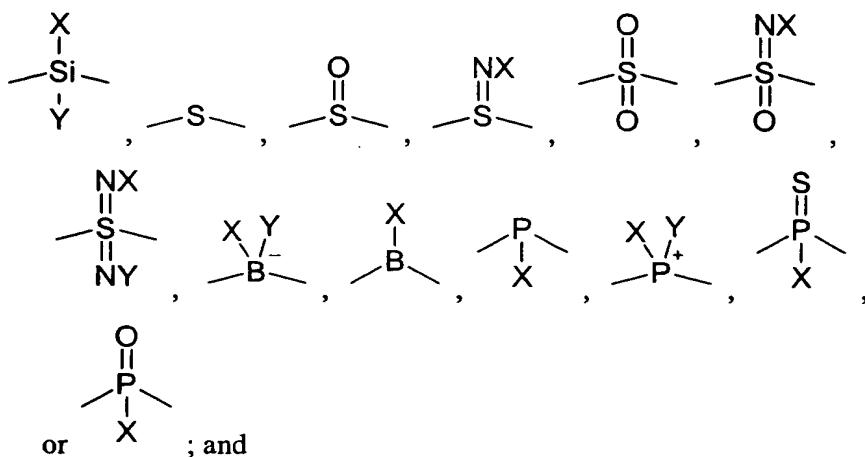


D2 is of the formula:



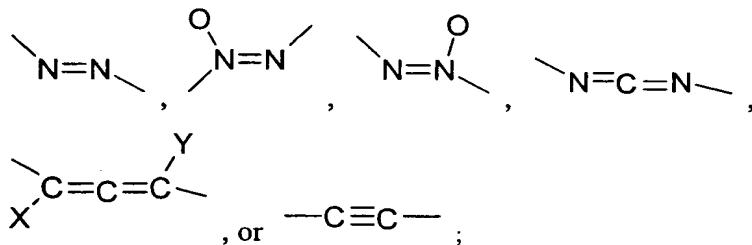
15

E is of the formula:



5

J is of the formula:



wherein:

A) each X and Y is independently a group of the formula:

10

$-(L)_m-Z;$

and

B) m is an integer from 0 to 8; and

C) no more than two D2 or E groups are adjacent to each other and no J groups are adjacent to each other;

15

iii) each Z is independently selected from:

A) hydrogen, halo, cyano, nitro, nitroso, azido, chlorate, bromate, iodate, isocyanato, isocyanido, isothiocyanato, pentafluorothio, or

B) a group G, wherein G is an unsubstituted or substituted; unsaturated, partially saturated, or saturated; monocyclic, bicyclic, tricyclic, or fused; 4 to 14 membered carbocyclic or heterocyclic ring system
wherein;

20

1) when the ring system contains a 4 membered heterocyclic ring, the heterocyclic ring contains 1 heteroatom;

- 2) when the ring system contains a 5, or more, membered heterocyclic ring or a polycyclic heterocyclic ring, the heterocyclic or polycyclic heterocyclic ring contains from 1 to 4 heteroatoms;
- 3) each heteroatom is independently selected from N, O, and S;
- 5 4) the number of substituents is from 0 to 5 and each substituent is independently selected from X;
- b) the total number of non-hydrogen atoms in each compound is 50 or less; and
- c) the total number of heteroatoms in -(L)_n-Z is from 0 to 4; and
- d) either;
- 10 i) R¹ or R³ contains at least one group G; or
- ii) at least one L group is an E group; or
- iii) at least one of R¹, R², R³, and R⁴ contains one to four non-hydrogen atoms and at least one of R¹, R², R³, and R⁴ contains more than four non-hydrogen atoms; and its enantiomers, stereoisomers, salts, and mixtures thereof;
- 15 or a composition thereof.
3. The method of claim 2, wherein the ethylene response is one or more of ripening or senescence of flowers, fruits, and vegetables; abscission of foliage, flowers, and fruit; the shortening of life of ornamental plants, cut flowers, shrubbery, seeds, or dormant seedlings; inhibition of growth; stimulation of growth; auxin activity; inhibition of terminal growth; control of apical dominance; increase in branching; increase in tillering; changing the morphology of plants, modifying the susceptibility to plant pathogens such as fungi, changing bio-chemical compositions; abortion or inhibition of flowering or seed development; lodging effects; stimulation of seed germination; breaking of dormancy; hormone effects; and epinasty effects.
- 20 4. The method of claim 2, wherein R², R³, and R⁴ are hydrogen or R¹, R², and R³ are hydrogen.
5. The method of claim 2, wherein n is from 1 to 7.
- 25 6. The method of claim 2, wherein m is from 0 to 2.
7. The method of claim 2, wherein:
- a) each D1 is -CXY-, -CO-, or -CS-;
- b) each D2 is -NX- or -O-;

- c) each E is -S-, -SiXY-, or -SO₂-;
 - d) each X and Y is independently H, halo, OH, SH, -C(O)(C₁-C₄)alkyl, -C(O)O(C₁-C₄)alkyl, -O-(C₁-C₄)alkyl, -S-(C₁-C₄)alkyl, or substituted or unsubstituted (C₁-C₄)alkyl; and
- 5 e) each Z is independently H, halo, or G.
- 8. The method of claim 2, wherein each G is independently a substituted or unsubstituted; five, six, or seven membered; aryl, heteroaryl, heterocyclyl, or cycloalkyl ring.
 - 9. The method of claim 8, wherein each G is independently a substituted or unsubstituted phenyl, pyridyl, cyclohexyl, cyclopentyl, pyrrolyl, furyl, thiophenyl, triazolyl, pyrazolyl,

10 1,3-dioxolanyl, or morpholinyl.

 - 10. The method of claim 8, wherein the substituents, when present, are independently selected from 1 to 3 of methyl, methoxy, and halo.